

AiM User Guide

Adaptronic e420d, 440,
Plug-in (all) and e1280s
ECUs

Release 1.00



ECU





This user guide explains how to connect Adaptronic ECUs to AiM devices. They are aftermarket products normally installed on cars and can also replace the stock ECU; please refer to Adaptronic website “www.adaptronic.com.au” to know which car models are supported and how. This document refers to the following Adaptronic ECUs:

- e420d
- 440
- Plug-in (all models)
- e1280s

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Prerequisites

AiM devices communicates with Adaptronic ECUs only if these requisites are satisfied:

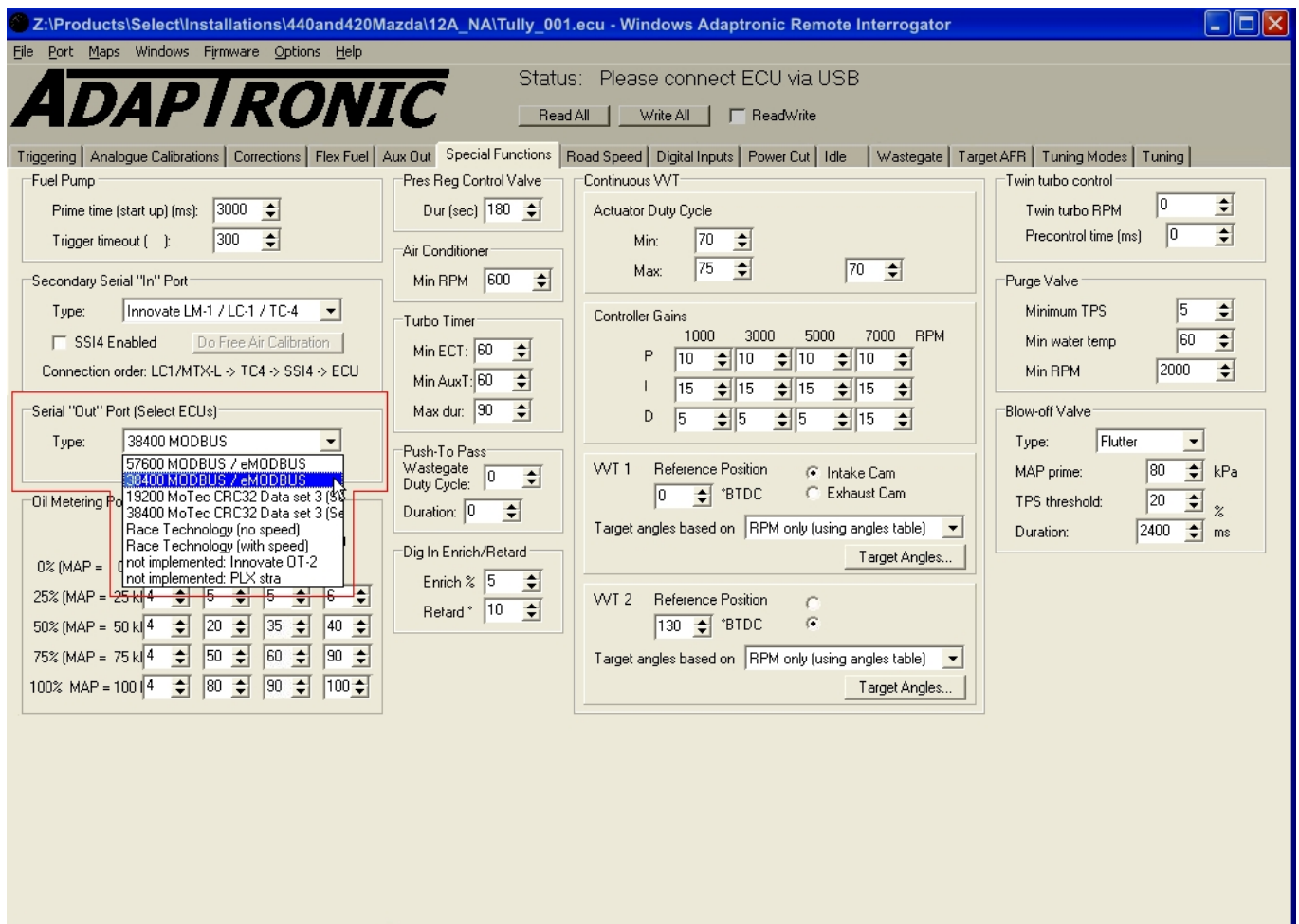
- | | |
|------------------------|---|
| • e420d | Adaptronic firmware vers. 10.064 or later installed and software setup |
| • 440 | Adaptronic firmware vers. 10.064 or later installed and software setup |
| • Plug-in (all models) | Adaptronic firmware vers. 10.064 or later installed and software setup |
| • e1280s | Specific firmware version with preset 38400 baud rate installed. This firmware can only be provided by Adaptronic: no software setting is available. |

1.1

Software setup (e420d, 440 and Plug-in)

e420d, 440 and Plug-in (all models) ECUs must have a firmware version 10.064 or later installed and need a software setup to communicate with AiM devices. Using Adaptronic software, enter "Special functions layer" and:

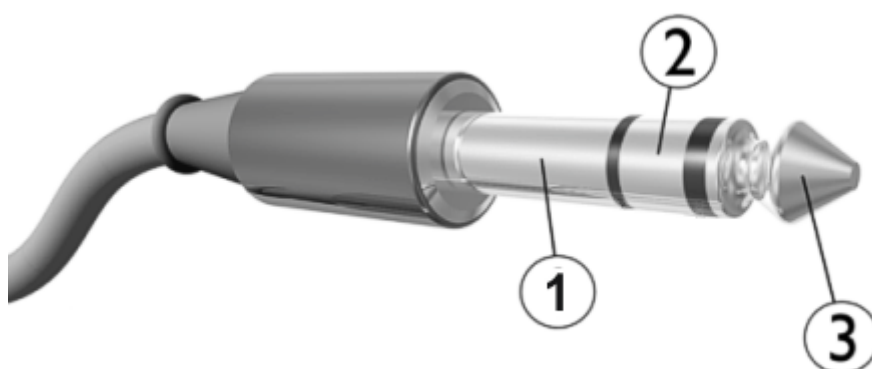
- go to Serial "Out" port (Select ECUs) box and select "38400 MODBUS/EMODBUS" option as shown here below.



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Wiring connection

All ECUs are provided with a "Serial out" 2,5 mm socket to which a jack connector is to be plugged. Here below you see socket detail and connection table.



Socket connection	function	AiM cable	Cable colour
1 – Sleeve	ECU GND	GND	Black
2 – Ring	ECU Tx (data out)	RS232RX	White
3 – Tip	ECU Rx (ECU poll)	RS232TX	Blue

Please note: ECU Serial output and ECU USB cannot be used at the same time. If both are connected USB takes priority.

3

AiM device configuration

Before connecting the logger to the ECU, set up the logger as follows:

Run Race Studio 2 software and select:

- Device Configuration -> Select the device you are using;
- select the configuration or press "New" to create a new one;
- select ECU manufacturer "Adaptronic" and ECU Model "E420C_E1280S"
- transmit the configuration to the device pressing "Transmit".

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Adaptronic “E420C_E1280S” protocol

Channels received by AiM devices connected to “E420C_E1280S” protocol are:

ID	CHANNEL NAME	FUNCTION
ECU_1	CH_RPM	RPM
ECU_2	CH_MAP	Manifold air pressure
ECU_3	CH_MAT	Manifold air temperature
ECU_4	CH_WT	Engine coolant temperature
ECU_5	CH_AUXT	Auxiliary temperature
ECU_6	CH_AFR	Air/Fuel ratio
ECU_7	CH_KNOCK	Knock sensor
ECU_8	CH_TPS	Throttle position sensor
ECU_9	CH_IDLE	Idle switch
ECU_10	CH_BATT	Battery supply
ECU_11	CH_MASTE_SPEED	Master speed
ECU_12	CH_SLAVE_SPEED	Slave speed
ECU_13	CH_INJ_1_PULS	Fuel injection pulse 1
ECU_14	CH_INJ_2_PULS	Fuel injection pulse 2
ECU_15	CH_INJ_3_PULS	Fuel injection pulse 3
ECU_16	CH_INJ_4_PULS	Fuel injection pulse 4
ECU_17	CH_IGN_1	Ignition advance 1
ECU_18	CH_IGN_2	Ignition advance 2
ECU_19	CH_IGN_3	Ignition advance 3
ECU_20	CH_IGN_4	Ignition advance 4
ECU_21	CH_FUEL_TRIM	Fuel trim
ECU_22	CH_VVT2	Variable valve timing 2
ECU_23	CH_VVT1	Variable valve timing 1
ECU_26	CH_EXT_IN	External Input
ECU_27	CH_EGT1	Exhaust gas temperature cylinder 1
ECU_28	CH_EGT2	Exhaust gas temperature cylinder 2